Appendix B: Section 7 Determination

Wild and Scenic Rivers Act Section 7 Determination

Introduction

Purpose, Authority, and Designation

The purpose of this determination is to evaluate whether the impact of the proposed South Fork Merced River Bridge Replacement Project would directly and adversely affect the free- flowing condition and the Outstandingly Remarkable Values for the affected segments of the South Fork Merced River.

The authority for this determination was enacted under Section 7(a) of the Wild and Scenic Rivers Act (PL 90- 542, as amended, 16 USC 1271- 1278). Section 7(a) states, in part:

> "no department or agency of the United States shall assist by loan, grant, license or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the Secretary charged with its administration."

The Wild and Scenic Rivers Act does not prohibit development along a river corridor; however, the act does specify guidelines for the determination of appropriate actions within the bed and banks of a Wild and Scenic River (NPS, DOI, USFS, USDA 1982). As the designated manager for the Merced River segments (including those of the South Fork Merced River) within the boundaries of Yosemite National Park and the El Portal Administrative Site, the National Park Service must prepare a Section 7 determination on all proposed water resources projects (includes bridges and other roadway construction/reconstruction projects[1]) to ensure they do not directly and adversely impact the free- flowing condition or the values for which the river was designated.[2]

Wild and Scenic River Designation

During 1987, Congress designated the Merced River a Wild and Scenic River to protect the free-flowing condition and to protect and enhance its unique values for the benefit and enjoyment of present and future generations (16 USC 1271). This designation provides special protection for the Merced River and designated tributaries under the Wild and Scenic Rivers Act.

Passage of PL 100- 149 (1987) and PL 102- 432 (1992) placed 122 miles of the main stem and South Fork Merced River into the Wild and Scenic River System. Rivers tributary to the Merced, besides the South Fork, and also included were the Red Peak, Merced Peak, Triple Peak, and Lyell. The National Park Service manages 81 miles of the river system (including the Merced River main stem and the South Fork within Yosemite National Park and the El Portal Administrative

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[1] *A water resources project is any dam, water conduit, reservoir, powerhouse, transmission line, or other works project under the Federal Power Act, or other developments that would affect the free-flowing characteristics of a wild and scenic or congressionally authorized study river. In addition to projects licensed by the Federal Energy Regulatory Commission, water resource projects may also include: dams, water diversions, fisheries habitat and watershed restoration, bridges and other roadway construction/reconstruction projects, bank stabilization projects, channelization projects, levee construction, boat ramps, fishing piers, and activities that require a Section 404 permit from the U.S. Army Corps of Engineers (IWSRCC 1999).*

[2] *This description of the Wild and Scenic Rivers Act Section 7 determination process is adapted from a technical report by the interagency Wild and Scenic Rivers Coordinating Council (IWSRCC 1999).*

Site), while the remaining 41 designated river miles are managed by the U.S. Forest Service and the U.S. Bureau of Land Management.

South Fork Bridge Removal and Replacement Project Wild and Scenic Rivers Act Section 7 Determination

The Section 7 evaluation for the South Fork Merced River Bridge Replacement Project has been summarized in table B- 1. This evaluation was based on guidance provided within the Wild and Scenic Rivers Act: Section 7 Technical Report (Interagency Wild and Scenic Rivers Coordinating Council), Appendix C, Evaluation Procedure under the heading Direct and Adverse. The direct and adverse evaluation procedure is carried out for water resources projects licensed by the Federal Energy Regulatory Commission or other federally assisted water resources projects within the Wild and Scenic River boundary of the designated river. The South Fork Bridge lies within the bed and banks of the South Fork Merced River; however, the approaches or detour road to a temporary bypass bridge structure have been constructed on upland soils. All proposed activities will occur within the Wild and Scenic boundary of the South Fork Merced River. The Section 7 determination process presented herein applies only to the Preferred Alternative.

Outstandingly Remarkable Values

Outstandingly Remarkable Values are the river- related values that qualify the river segment as unique and worthy of special protection. They form the basis for the designation as a Wild and Scenic River. Outstandingly Remarkable Values identified for the Wawona area segment of the South Fork Merced River, include:

- Scenic – This segment provides views (of Wawona Dome) from the river and its banks.
- Recreation – This segment offers opportunities to experience a spectrum of river- related recreational activities, from nature study and photography to hiking.
- Biological – This segment contains a diversity of river- related species, wetlands, and riparian habitats. There are federal and state special- status species in this segment, including the Wawona riffle beetle.
- Cultural – This segment contains evidence of thousands of years of human occupation, including numerous prehistoric and historic American Indian villages, historic sites, structures, and landscape features related to tourism, early Army and National Park Service administration, and homesteading.
- Scientific – The entire river corridor constitutes a highly significant scientific resource because the river watershed is largely within designated Wilderness in Yosemite National Park. Scientific Outstandingly Remarkable Values relate to the South Fork and the main stem Merced River values for research. This Outstandingly Remarkable Value applies to all the Merced River segments.

The South Fork Bridge is located within the Wawona Cultural Landscape; however, the bridge is not part of the cultural Outstandingly Remarkable Value because it is not eligible for or listed on the National Register of Historic Places.

Table B-1. Section 7 Evaluation for the South Fork Merced River Bridge Replacement Project

Evaluation Criteria	Project Data
Define the Proposed Activity	
Project Proponent	National Park Service, Yosemite National Park
Purpose and need for the project	The primary purpose of the South Fork Merced River Bridge Replacement Project is to protect public health and safety by removing and replacing the condemned and closed bridge with a wider, safer structure and to discontinue use of the narrow temporary Bailey bridge (installed in 1998 with a limited-use intent that has been exceeded). The need for the proposed project has been established because the South Fork Bridge has been condemned and closed following damage resulting from the 1997 flooding of the South Fork Merced River. Prior to the flood in 1993, the South Fork Bridge was considered to be critically deficient and its expected useful life was determined to be 10 years at reduced loading (from 19 tons to 7 tons) because of steel girder deflection and scouring around the piers. In addition, the temporary Bailey bridge (installed in 1998 following condemnation of the existing structure) is insufficient for current uses because of narrowness, and it has been in place for over four years, which is beyond its intended use of 13 months.
Geographic location of the project	The South Fork Bridge spans the South Fork Merced River and is part of California State Highway 41 (Wawona Road or South Entrance Road), a principle access route into the park. The river flows along the southern border of Yosemite National Park and passes through the Wawona developed area. Wawona is located in Mariposa County in the southwestern corner of the park, about 0.1-mile south of the Wawona ranger office. The coordinates for the bridge site are Universal Transverse Mercator Zone 11, 265145 (Easting) and 4157715 (Northing), NAD27. Refer to figure I-1 of the *South Fork Merced River Bridge Replacement Environmental Assessment*.
Project description	The Preferred Alternative identifies removal of the existing triple-span, steel girder deck South Fork Bridge (approximately 134-feet long and 24-feet wide) with a new, single span bridge (approximately 150-feet long and 42-feet wide) in the same location. The new bridge would be approximately 13-feet wider to accommodate wider travel lanes, shoulders, and a 5-foot wide sidewalk. The new structure height would be similar to that of the old bridge; however, the height of the safety railing would be raised to 2-feet 8-inches to meet present safety standards. The new bridge would span the entire South Fork riverbed and banks without the need for center support piers. Several storm drain drop outlets would be placed in the bridge shoulders for surface drainage. The appearance of the bridge would be similar to the existing bridge, made so by incorporating a natural river cobble façade on the railing posts and interior approach walls, a river rock formliner pattern on the abutments and exterior walls. During demolition, a temporary containment system, such as a reinforced tarp, netting, cage, or floating barge, would be installed beneath the South Fork Bridge to catch any debris that may fall. This containment system would prevent slurry from concrete saws and small debris from falling into the South Fork Merced River. Any debris that is not captured by the containment system, e.g., masonry greater than 2–inches in diameter and all metal debris would be removed from the riverbed. A temporary structural support system consisting of scaffolding, jacks, or mechanical lifts may be installed, if necessary, to prevent uncontrolled collapse of the bridge structure during demolition, or to anchor the containment system. A temporary Bailey bridge was emplaced to carry traffic on Wawona Road, following condemnation and closure of the South Fork Bridge in 1997–1998, due to a catastrophic flood. Because the bypass bridge was part of the original replacement design, impacts related to its placement (e.g., riparian tree removal and disturbance to the riverbank) and removal are addressed within the environmental assessment and in this Section 7 determination. The temporary Bailey bridge was placed approximately 100-feet upriver from the existing bridge and is approximately 200-feet long and 30-feet wide. The South Fork Merced River Bridge Replacement Project alternative would require transferring utility lines from the existing bridge to the temporary Bailey bridge, and back to the new bridge. Utility lines that would require transfer include a 10-inch reclaimed water pipe, an 8-inch sewer pipe, a 4-inch high voltage conduit, and telecommunication lines for telephone and alarm systems. Due to the height of the temporary bypass structure, a lift station may be required to move sewage effectively during construction.

Table B-1. Section 7 Evaluation for the South Fork Merced River Bridge Replacement Project

Evaluation Criteria	Project Data
	Throughout the project, construction staging would occur at the Wawona District Materials Storage Area. Following new bridge construction and temporary bridge removal, the banks would be reshaped and riparian vegetation would be planted to stabilize the riverbanks. The National Park Service would monitor this reach of the South Fork Merced River to ensure that bank loss does not occur.
Duration of the proposed activities	The U.S. Army Corps of Engineers requires demolition activities to occur during low-water months. Therefore, construction would be expected to begin during September 2003, with in-channel activities completed prior to December 2003. During this time frame, flows within the South Fork Merced River would be expected to be below 100-cfs. If in-channel construction is not completed in 2003, activities in the channel will commence during low-flow periods in the summer of 2004. Bridge demolition and some types of construction would be avoided during higher flow periods. The entire project would be completed in approximately 13 months.
Magnitude and/or extent of the proposed activities	Refer to the *South Fork Merced River Bridge Replacement Environmental Assessmen*t, Chapter IV, Environmental Consequences, for detailed data concerning potential impacts of the Preferred Alternative.
Mitigation	The Preferred Alternative would protect Outstandingly Remarkable Values from possible damage due to uncontrolled bridge collapse, remove impediments to the free-flowing condition of the river, and restore natural fluvial processes in the river. Mitigation in the form of Best Management Practices and resource-specific mitigation has been incorporated into the Preferred Alternative. Refer to the *South Fork Merced River Bridge Replacement Environmental Assessment*, Chapter II, Alternatives, for mitigation measures incorporated into the Preferred Alternative.
Relationship to past and future management activities	Bridge replacement, in general, is discussed within the *General Management Plan* and *Yosemite Valley Plan*. The South Fork Merced River Bridge Replacement Project is being executed consistent with the Merced River Plan. Implementation of the Preferred Alternative will not alter management of this river segment.
Describe Whether the Proposed Activity Will Directly Alter Within Channel Conditions	
The position of the proposed activity relative to the streambed and streambanks	The South Fork Bridge is located within the bed and banks of the South Fork Merced River. The portion constructed on uplands, i.e., access to the temporary bridge is discussed in a later section of this table. Demolition and construction activities required to remove and replace the bridge would occur within the bed and banks of the South Fork Merced River.
Any Likely Resulting Changes In:	
Active channel location	Removal of the existing South Fork Bridge, with its two piers, would eliminate an obstruction to the natural flow of the South Fork Merced River. The scour holes present at the base of the piers would be filled with river cobble during the course of demolition/construction. Once the bridge piers are removed, the river channel is expected to return to a more natural flow condition, similar to pre-construction flow conditions. The abutments will be laid back to a more natural contour and will be reconstructed to more effectively protect the banks from erosion. The active channel location would not be altered. The bridge removal and replacement alternative would improve the active channel by returning it to more natural conditions.
Channel geometry (cross-sectional shape, width, depth characteristics)	The Preferred Alternative would remove the two piers from the riverbed and would replace and lay back the bridge abutments. The bridge removal would eliminate an obstruction to natural river flow and would fill scour holes formed at the base of piers with cobble. Eddying resulting from flows around the piers and as a result of flows across the existing abutments would be largely eliminated. The river reach in the immediate vicinity of the South Fork Bridge would be returned to free-flowing conditions, similar to those that existed prior to bridge construction. Overall channel geometry, both in the project vicinity and along the entire reach would be unaffected.
Channel slope (rate or nature of vertical drop)	The current configuration of the South Fork Bridge does not alter the slope of the South Fork Merced River channel. The existing slope through this river reach will remain unaffected by bridge removal and replacement.
Channel form (straight, meandering, or braided)	The South Fork Merced River is a straight river channel underlain by boulders and cobbles through the project area. Removal and replacement of the bridge would not affect the channel form.

Table B-1. Section 7 Evaluation for the South Fork Merced River Bridge Replacement Project

Evaluation Criteria	Project Data
Relevant water quality parameters (turbidity, temperature, nutrient availability)	The removal and replacement of the South Fork Bridge would not result in a long-term net increase or decrease of turbidity, temperature, nutrient availability, or other pollutant loads (sediment, bacteria) within the South Fork Merced River.
Navigation of the river	River navigation is not applicable to this section of the South Fork Merced River.
Describe Whether the Proposed Activity Will Directly Alter Riparian and/or Floodplain	
The position of the proposed activity relative to the riparian area and floodplain	The South Fork Bridge is located within the bed and banks of the South Fork Merced River, both below ordinary high water and within the 100-year floodplain. The access road to the temporary bypass bridge and utility lines are located on uplands within the 100-year floodplain.
Any Likely Resulting Changes In:	
Vegetation composition, age structure, quantity, or vigor	Two large trees have already been removed to accommodate installation of the temporary Bailey bridge, under emergency actions following condemnation of the South Fork Bridge. The possible removal of trees could occur; however, trees would only be removed if deemed necessary. Should trees require removal, the National Park Service would either cut and remove the trees from the site, cut and retain the tree to contribute woody debris to the river, or destabilize and control the fall of trees to retain woody debris and a natural-appearing fallen tree with root ball attached. Following construction activities, regrading and revegetation with native riparian tree and shrub species would occur and help to restore the vegetation integrity at this site. In addition, removal of the bridge piers would help to restore the free-flowing condition of the river and return this portion of the South Fork Merced River to a more natural state.
Relevant soil properties such as compaction or percent bare ground	No long-term adverse impact to soil resources is anticipated. The project would result in removal and restoration of former informal earthen parking lots, particularly in the northeastern quadrant, reducing soil compaction and improving riverbank and adjacent upland soil conditions.
Relevant floodplain properties such as width, roughness, bank stability, or susceptibility to erosion	Currently, the South Fork Bridge impedes river flow because of the two piers. The bridge can act as a debris dam, forcing floodwaters to leave the riverbanks and flood areas near the river. Because the project would remove the piers and span the river with a new single-span bridge, the river has ample capacity to pass large woody debris and floodwaters without overbank flooding. The project restores the river to more natural flow conditions and, therefore, would reduce the potential for flooding due to river impediments. The project would have a positive effect on the natural floodplain properties within this river reach. Removal and replacement of the abutments would result in a minor beneficial effect to floodplain properties, because the new abutments would be laid back and could accept slightly higher flows. Riparian vegetation would be planted into sites disturbed during construction, including the temporary bridge site. The National Park Service would monitor this site on the South Fork Merced River, to ensure that bank loss does not occur. Should future river processes erode the bank in the vicinity of abutment replacement activities, then use of boulders and other naturally occurring river materials could be considered for stabilizing the banks.
Describe Whether the Proposed Activity Will Directly Alter Upland Conditions	
The position of the proposed activity relative to the uplands	The Preferred Alternative is located primarily on the bed and banks of the South Fork Merced River. Uplands have been impacted by the placement of the temporary bypass road and bridge that carries traffic around the condemned South Fork Bridge. Utility lines are present in upland soils. Restoration of upland sites impacted by the Preferred Alternative will be undertaken, including regrading and revegetation using native species.
Any Likely Resulting Changes In:	
Vegetation composition, age structure, quantity, or vigor	Disturbed upland sites currently dominated by sparse stands of annual plant species would be revegetated using native species of grasses, forbs, shrubs, and trees. The site composition would shift from largely non-native annual species to native perennial herbaceous species. In addition, the composition would benefit from the introduction of native grass, forb, shrub, and tree species. The introduction of seedling shrubs and trees would affect the current vegetation structure and enhance its value as wildlife habitat. There would be no affect to age structure or vigor of upland vegetation as a result of project implementation.

Table B-1. Section 7 Evaluation for the South Fork Merced River Bridge Replacement Project

Evaluation Criteria	Project Data
Relevant soil properties such as compaction or percent bare ground	Areas of upland soils were adversely affected prior to bridge condemnation and closure due to the use of some sites as informal parking areas and other sites for installing utility lines. Soils under the asphaltic concrete of the temporary bypass road have been graded and compacted to provide an adequate base for road construction. The amount of bare ground present has probably decreased somewhat due to invasion by mostly annual plant species that has occurred on exposed upland soils formerly used as parking areas. There has been compaction of soils due to the temporary Bailey bridge access road placement that would be mitigated by using revegetation techniques.
Relevant hydrologic properties such as drainage patterns or the character of surface and subsurface flows	Runoff onto upland soils from paved surfaces has increased as a result of bypass bridge access road construction. At least one area adjacent to the temporary access road in the northeastern project quadrant ponds water somewhat, resulting in a more mesic habitat. A culvert has been installed under the temporary roadway to carry water to the river via a minor drainage. Implementation of the Preferred Alternative would have only minor effects to upland drainage patterns, due to regrading the site following construction.
Potential changes in upland conditions that would influence archeological, cultural, or other identified significant resource values	There is a low probability that earth-disturbing activities in the northwestern project quadrant, where cultural resource inventories have not yet been conducted, could result in adverse effects to archeological resources. A mounded area of undisturbed upland soils would be disturbed by abutment removal and replacement, resulting in a potentially adverse effect to archeological resources that may be present in this site. The National Park Service would evaluate this site prior to any earth-disturbing activities. Mitigation for archeological resources has been described in the *South Fork Merced River Bridge Replacement Environmental Assessment*, Chapter II, Alternatives.
Evaluate and Describe Whether Changes in Onsite Conditions Can or Will Alter Existing Hydrologic or Biologic Processes	
The ability of the channel to change course, reoccupy former segments, or inundate its floodplain	Currently, the South Fork Bridge acts as an impediment to river flow, and could act as a debris dam during high-water events. The river is deeply incised through this reach (from 20–30-feet deep), well armored with boulders and cobble, and is unlikely to change course. Because the project would remove impediments and the river has ample capacity, it would not be expected to overflow its banks at flood stage. The project restores the natural river flow conditions and therefore, would reduce the potential for storm-stage flooding due to damming effects.
Streambank erosion potential, sediment routing and deposition, or debris loading	Streambank erosion potential is highest when river flow is constricted by an in-stream structure such as a bridge. The Preferred Alternative would remove the piers, thereby removing impediments and restoring flows to more natural conditions, and restoring natural erosion, sedimentation, and depositional processes. Some bank erosion was observed on the South Fork Merced River right bank, below the existing bridge, due to eddying during high-flow events. It is unknown if the eddying was the result of abutment placement effects or from flows around the northernmost pier, or a combination of the effects of both structures. Additional riverbank erosion was observed on the left bank, upriver of the abutment. The piers would be removed and the abutments would be removed and replaced using a design to pass high flows with less downstream effect. Sediment deposition within this river reach would be unlikely due to the slope and incised nature of the streambed. Sediments would likely be rapidly transported through this reach to be deposited downstream where the gradient lessens, the riverbed widens, and the flow slows. The removal of two existing piers from the streambed would eliminate the potential for debris loading at this structure.
The amount or timing of flow in the channel	The removal and replacement of the South Fork Bridge would not affect flow rates or discharge of the river.
Existing flow patterns	Removal of the bridge piers would eliminate an impediment to flows that has resulted in scour holes forming in the riverbed around the base of the piers. Once the piers are removed, the river is expected to return to a more natural flow condition, similar to flows that existed prior to bridge construction. The piers would no longer be present to potentially trap large woody and other debris, thus pooling floodwater behind the structure with the potential for downstream overbank flooding. Reconstruction of the abutments would only slightly minimize any presently occurring adverse effects related to their presence on the riverbank and in the edge of the riverbed.
Surface and subsurface flow characteristics	The removal and replacement of the South Fork Bridge would not affect surface or subsurface flow characteristics. No portion of the Preferred Alternative, including equipment staging, demolition activities, or materials storage, would be located within or otherwise affect surface or subsurface drainage patterns from the uplands to the South Fork Merced River.
Flood storage (detention storage)	Removal of two instream piers would eliminate the potential for large woody debris damming the river and backing floodwaters behind the bridge structure. Otherwise, there would be no measurable effect to flood storage as a result of the Preferred Alternative.

Table B-1. Section 7 Evaluation for the South Fork Merced River Bridge Replacement Project

Evaluation Criteria	Project Data
Aggregation and/or degradation of the channel	The channel of the South Fork Merced River, at the base of the existing piers, has already degraded due to scour hole development. During removal of the piers, these scour pools would be filled with cobble to allow natural river flows to occur. Following this action there would be no measurable effect to aggregation/degradation of the channel as a result of the proposed project. Removing the piers would help to restore natural flows, and also natural bed erosion, sedimentation, and depositional processes.
Biological Processes Such As:	
Reproduction, vigor, growth and/or succession of streamside vegetation	Removal of the temporary bridge structure and regrading and revegetation of disturbed riverbanks would help to restore vegetation integrity at this site. Removal of the instream piers would help to restore the free-flowing condition of the South Fork Merced River and return this reach of the river to a more natural condition, thereby enhancing the biological integrity. Minor regrading and revegetation in this area would improve bank and vegetation integrity.
Nutrient recycling	No measurable effect to nutrient cycling is anticipated. The Preferred Alternative would have a minor effect on riparian vegetation and would not adversely affect woody debris or free-flowing characteristics (major contributing components of riverine nutrient cycling) of the South Fork Merced River. Local nutrient availability and cycling may be temporarily affected during the demolition period due to an increased amount of fine sediment released in the river. However, the sediment dislodged by construction associated with the Preferred Alternative is anticipated to be minor. In the long term, nutrient availability would be enhanced because the minor regrading and revegetation would improve bank and vegetation integrity.
Fish spawning and/or rearing success	No measurable effect to fish spawning and/or rearing success is anticipated. The river in the vicinity of the South Fork Bridge is moderately swift and has a small amount of fish spawning or rearing habitat (e.g., riffles, pools, gravel substrate). Pools scoured adjacent to the piers of the existing structure would be filled with cobble. Minor regrading and revegetation following construction would increase bank integrity, improving fish habitat somewhat. The extent and quality of fish habitat throughout the remainder of the South Fork Merced River corridor would be unaffected.
Riparian-dependent avian species needs	No measurable effect to riparian dependent avian species is anticipated. The river in the vicinity of South Fork Bridge supports limited riparian vegetation. Small amounts of riparian vegetation would be removed under the Preferred Alternative (including that already removed due to temporary bridge installation). The extent and quality of avian habitats throughout the remainder of the South Fork Merced River corridor would be unaffected.
Amphibian/mollusk needs	No measurable effect to amphibians/mollusks is anticipated. The river in the vicinity of the South Fork Bridge is moderately swift and provides minimal amphibian and mollusk habitat, particularly in sparse stands of willow growing upstream of the bridge. The Preferred Alternative would not have an adverse effect on amphibian or mollusk needs. The extent and quality of amphibian and mollusk habitats throughout the remainder of the South Fork Merced River corridor would be unaffected.
Species composition (diversity)	No measurable effect to species composition or diversity is anticipated. Upon project completion, the biological integrity of the site would be enhanced.
Estimate the Magnitude and Spatial Extent of Potential Offsite Changes	
Consider and Document:	
Changes that influence other parts of the river system	The effects of the Preferred Alternative are localized and will not result in changes that will influence other portions of the South Fork Merced River or the Merced River system.
The range of circumstances under which offsite changes might occur (for example, as may be related to flow frequency)	Following removal of the instream piers, river flow will no longer be impeded at this site and natural flow processes will predominate. There are no obvious circumstances under which offsite change would occur.
The likelihood that predicted changes will be utilized	The predicted change resulting from the Preferred Alternative would be more natural, unimpeded flows restored for this river reach. There is every indication that this predicted change would occur.

Table B-1. Section 7 Evaluation for the South Fork Merced River Bridge Replacement Project

Evaluation Criteria	Project Data
Specify processes involved such as water and sediment and the movement of nutrients	Natural processes of fluvial dynamics (free flow) and sediment transport would be enhanced upon completion of the Preferred Alternative.
Define the Time Scale Over Which Steps 3–6 are Likely to Occur	
Review steps 3–6, looking independently at the element of time. Define and document the time scale over which the effects will occur.	The temporary bridge has already been installed as part of an emergency action during 1998, following the catastrophic floods of 1997. Demolition of the existing bridge would begin in September 2003 and be complete before December 2003. Construction of the new bridge (and subsequent removal of the temporary bridge) would occur from approximately October 2003 and would be complete prior to October 2004. Riverine system adjustment to a natural hydrologic regime would be immediate.

Effects of the Proposed Action on Outstandingly Remarkable Values

Under the Preferred Alternative, the South Fork Bridge would be removed and a single- span structure constructed in its place. Overall, the Preferred Alternative would have localized beneficial effects on the scenic, recreation, and biological Outstandingly Remarkable Values. Removal and replacement of the South Fork Bridge could have localized adverse effects on archeological resources, if they are present in a currently undisturbed and unevaluated portion of the riverbank. The effects of the Preferred Alternative on Outstandingly Remarkable Values are summarized below and discussed in further detail in table B- 2. Generally, the effects of the Preferred Alternative would be localized and limited to the immediate South Fork Bridge project area, thus having no effect on the scenic, recreation, biological, and cultural processes or Outstandingly Remarkable Values on a segment- wide level.

With respect to the scenic Outstandingly Remarkable Value, the Preferred Alternative would provide a sidewalk on the upriver side of the new bridge, from which visitors could view the South Fork Merced River and the interface of river, rock, meadow, and forest and the Wawona Dome. The barricaded and condemned South Fork Bridge and the temporary Bailey bridge would no longer visually intrude upon views from the riverbank and river, the parking area, Forest Drive and Chilnualna Falls Road, and the Wawona Golf Course, which would beneficially affect the scenic Outstandingly Remarkable Value. The Preferred Alternative would enhance the scenic Outstandingly Remarkable Value on a localized level by providing the sidewalk from which river and landscape viewing is possible. On a segment- wide level, the Preferred Alternative would have no effect on the scenic Outstandingly Remarkable Value.

With respect to the recreation Outstandingly Remarkable Value, the Preferred Alternative would provide a sidewalk across the bridge that would allow opportunities to experience a spectrum of passive river- related recreational activities and facilitate exercise in the form of walking, jogging, hiking, and bicycling, in addition to providing views of the Wawona Golf Course. Provision of the sidewalk would negligibly enhance the recreation Outstandingly Remarkable Value on a local level. On a segment- wide level, the Preferred Alternative would have no effect on the recreation Outstandingly Remarkable Value.

With respect to the biological Outstandingly Remarkable Value, the Preferred Alternative would involve minor regrading and revegetation of the riverbanks in the immediate vicinity of the bridge, the site of the temporary bridge, and the uplands supporting the temporary bridge access, which would have site- specific, long- term, beneficial effects on bank and vegetation integrity. Catastrophic collapse of the bridge under the No Action Alternative could result in extensive erosion, a release of bridge debris, and releases of reclaimed water and untreated sewage that could temporarily affect downstream riparian and aquatic resources and river- related special status species. The Preferred Alternative would avoid these impacts to biological resources in general; however, individuals of the Wawona riffle beetle, a special- status insect that could receive adverse effects due to demolition and construction activities, may be present on the project site. These short- term effects would be offset by the long- term benefits from the restoration of riparian vegetation in the project area. Although the Preferred Alternative would locally enhance this Outstandingly Remarkable Value, on a segment- wide level, the Preferred Alternative would have no effect on the biological Outstandingly Remarkable Value.

Table B-2. Impacts of the Preferred Alternative on Outstandingly Remarkable Values of the South Fork Merced River

Outstandingly Remarkable Value	Effects of the Preferred Alternative
Scenic — This segment provides views from the river and its banks (of Wawona Dome)	The Preferred Alternative would provide a sidewalk on the upstream side of the bridge from which river views would be possible. The views of most interest from the South Fork Bridge would include the river, banks, and riparian vegetation; the historic Covered Bridge; Wawona Dome; forested slopes; the Wawona Golf Course; and the Wawona Store. The Preferred Alternative would protect the scenic Outstandingly Remarkable Value on a localized level by providing a sidewalk that allows viewing opportunities. On a segment-wide level, the Preferred Alternative would contribute negligibly to the enhancement of the scenic Outstandingly Remarkable Value. The Preferred Alternative would have no effect on the scenic Outstandingly Remarkable Value on a segment-wide level.
Recreation — This segment offers opportunities to experience a spectrum of river-related recreational activities, from nature study and photography to hiking	The Preferred Alternative would provide wider shoulders and a sidewalk on the upstream side of the new bridge, which would allow opportunities to experience a spectrum of river-related recreational activities. These activities include sightseeing, photography, and nature study over the long term. Sidewalk construction would negligibly enhance the recreation Outstandingly Remarkable Value on a localized level, because the effects would be limited to the immediate vicinity of the South Fork Bridge and there would be no effect on the spectrum of river-related recreational activities throughout the remainder of the South Fork Merced River corridor. Although the Preferred Alternative would have localized beneficial effects, on a segment-wide level the Preferred Alternative would have no effect on the recreation Outstandingly Remarkable Value.
Biological — This segment contains a diversity of river-related species, wetlands, and riparian habitats. There are federal and state special-status species in this segment, including the Wawona riffle beetle	The Preferred Alternative would involve regrading and revegetation of the riverbanks in the immediate vicinity of the South Fork Bridge and the temporary bridge structures, which would have site-specific, long-term, beneficial effects on the bank and vegetation integrity. The Preferred Alternative would also improve riparian, wetland, and aquatic habitat for a diversity of river-related species, including special-status species. Under the No Action Alternative, the South Fork Bridge would collapse over time and potentially result in damming, flooding, bank erosion, and release of bridge debris downstream, which could temporarily affect riparian and aquatic resources and river-related special-status species. The Preferred Alternative would avoid these impacts to biological resources. The effects of the Preferred Alternative would be limited to the South Fork Bridge area near Wawona, and would have no effects on river-related biological resources throughout the remainder of the South Fork Merced River corridor. The Preferred Alternative would locally enhance this Outstandingly Remarkable Value, however, on a segment-wide level. The Preferred Alternative would have no effect on the biological Outstandingly Remarkable Value.
Cultural — This segment contains evidence of thousands of years of human occupation, including numerous prehistoric and historic American Indian villages, historic sites, structures, and landscape features related to tourism, early Army and National Park Service administration, and homesteading	There is a low probability that removal of the South Fork Bridge and replacement with a longer structure could have an adverse impact to archeological resources due to ground-disturbing activities. The adverse effects would be limited to the immediate vicinity of the South Fork Bridge, and would have no effect on archeological resources throughout the park. Although the Preferred Alternative would have a localized adverse effect, on a segment-wide level, the Preferred Alternative would have no effect on the cultural Outstandingly Remarkable Value. Ethnographic resources, including traditional use areas, would not be affected under the Preferred Alternative.
Scientific — The entire river corridor constitutes a highly significant scientific resource because the river watershed is largely within designated Wilderness in Yosemite National Park. Scientific Outstandingly Remarkable Values relate to the Merced River value for research. This outstandingly Remarkable Value applies to all the Merced River and South Fork segments.	The Preferred Alternative would remove the condemned South Fork Bridge and the temporary Bailey bridge. South Fork Bridge demolition would be conducted in a controlled manner to avoid collapse, would incorporate a containment system to capture debris, and would result in removing two piers from the riverbed. Pier removal would result in a more natural flow regime, establishment of additional habitat to support the Wawona riffle beetle, and restoration of riverbank vegetation following construction. The Preferred Alternative would have a beneficial localized effect to the protection of the scientific Outstandingly Remarkable Value; however, there would be no effect on the scientific Outstandingly Remarkable Value on a segment-wide basis.

The Preferred Alternative would remove impediments to flow and avert possible future catastrophic collapse of the bridge structure. Such a collapse could introduce untreated sewage and reclaimed water into the river from utility line breaks, which would become more dilute as the spill progressed downriver. On a local and segment- wide basis, the Preferred Alternative would have a beneficial effect on the scientific Outstandingly Remarkable Value.

Section 7 Determination

The Preferred Action would remove two human- made structures from the bed and banks of the South Fork Merced River, i.e., the South Fork Bridge and the temporary Bailey bridge, and replace them with a single- span bridge structure on the banks of the South Fork Merced River. Replacement of the South Fork Bridge is necessary because the bridge serves as a primary access road into the park for over one- third of park visitors, staff, and local residents over the South Fork Merced River via Wawona Road. Free flow and natural fluvial processes, including sediment transport, natural erosion, and deposition, would be largely restored to this reach of the South Fork Merced River due to the removal of two in- stream piers and replacement of river-narrowing abutments. Upon removal of the existing South Fork Bridge, piers, and abutments, the localized flow will no longer be obstructed and the action will reduce erosion of the riverbank and the potential for storm- stage flooding caused by material accumulation behind the bridge structure. Reduction of the flood hazard will reduce over- bank flooding and associated erosion during large storm events. Removal of the existing and temporary structures and completely spanning the river with a new structure would beneficially affect scenic, recreation, biological, and scientific Outstandingly Remarkable Values on a localized level. Localized adverse affects could result to the archeological components of the cultural Outstandingly Remarkable Value, dependant on the results of site- specific surveys. On a segment- wide basis, however, Wawona Area Outstandingly Remarkable Values would not be appreciably affected. The Preferred Action would improve views from the riverbank and bridge structure, return the riverbanks and bed to a more natural state, benefiting riparian, wetland, and aquatic resources, and restore the active flood regime and fluvial processes. The National Park Service concludes that the Preferred Action will enhance free flow of the South Fork Merced River and will not have a segment- wide direct and adverse effect on the Outstandingly Remarkable Values for which the river was designated Wild and Scenic.

Recommended:

Superintendent, Yosemite National Park Date

Approved:

Regional Director Pacific West Region, National Park Service Date